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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,307	03/25/2005	Roger Guevremont	151-12 US/PCT	8639
25319 7590 04/10/2007 FREEDMAN & ASSOCIATES 117 CENTREPOINTE DRIVE SUITE 350 NEPEAN, ONTARIO, K2G 5X3 CANADA			EXAMINER SUNG, CHRISTINE	
			ART UNIT	PAPER NUMBER
			2884	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/10/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/529,307

Applicant(s)

GUEVREMONT, ROGER

Examiner

Christine Sung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stiehl (US Patent 4,878,149A) in view of Carnahan (US Patent 5,420,424 A).

Regarding claim 1, Stiehl discloses an apparatus for separating ions (figure 5a) comprising:

a plurality of first electrode portions (element 5), each first electrode portion of the plurality of first electrode portions having a first length and an outer surface that is at least partially curved in a direction transverse to the first length (element 5 is a set of rod electrodes, thus they are inherently curved);

a plurality of second electrode portions (element 6) interleaved in a repeating sequence with the plurality of first electrode portions (see figure 5a), each second electrode portion of the plurality of second electrode portions having a second length (element 6 is shorter) and an outer surface that is at least partially curved in a direction transverse to the second length (element 6 is a rod type element), a space between the outer surface of a first electrode portion and the outer surface of an adjacent second electrode portion defining a portion of an analytical gap for separating ions (see figure 5a);

and, at least an electrical controller (figure 4) for electrically coupling to at least one of the plurality of first electrode portions and the plurality of second electrode portions (elements 30 and 31) so as to establish an electric field within the portion of the analytical gap, whereby ions propagating along a direction that is transverse to both the first length and the second length are separated in the portion of the analytical gap between the outer surface of the first electrode portion and the outer surface of the adjacent second electrode portion (see claim 1, ions are separated).

Stiehl does not disclose that the voltage applied to the two types of electrodes are an asymmetric waveform voltage for applying a direct current voltage between the plurality of first electrode portions and the plurality of second electrode portions. However, Carnahan discloses an ion mobility spectrometer that uses various electrodes and applies an asymmetric voltage across the electrodes (see claim 1). At the time the invention was made, one of ordinary skill in the art would be motivated to apply the asymmetrical type voltage across the first and second electrodes in order to increase ion separation, as such types of voltages produce a field with a gradient, thus increasing the separability of ions.

Regarding claim 2, Stiehl discloses that the plurality of first electrode portions (element 5) comprises a plurality of first electrode rods, each first electrode rod of the plurality of first electrode rods (see claim 3) defining one first electrode portion of the plurality of first electrode portions.

Regarding claim 3, Stiehl discloses that the plurality of second electrode portions (element 6) comprises a plurality of second electrode rods, each second electrode rod of the plurality of second electrode rods defining one second electrode portion of the plurality of second electrode portions (see claim 3).

Regarding claim 4, Stiehl discloses that one of the plurality of first electrode portions and the plurality of second electrode portions comprises a formed-electrode (See Figures 5b and 5c).

Regarding claim 5, Stiehl discloses that the plurality of first electrode portions (element 5) comprises a first formed-electrode (See Figures 5b and 5c) and wherein the plurality of second electrode portions (element 6) comprises a second formed-electrode (See Figures 5b and 5c), the second formed-electrode for being mounted relative to the first formed-electrode such that an approximately same spacing is maintained between a first electrode portion of the plurality of first electrode portions and each adjacent second electrode portion of the plurality of second electrode portions (see figure 5a, all electrode elements are evenly spaced).

Regarding claim 6, Stiehl discloses that at least one of the first formed-electrode and the second formed-electrode is generally an extended S-shaped electrode (see figure 5c, formed electrodes are S, shaped).

Regarding claim 7, Stiehl discloses that the first formed-electrode (see figure 5b) comprises a first electrode assembly (element 5) including a first plurality of rods (element 5\_

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and a first support (element 1), a first end of each rod of the first plurality of rods being mounted to the first support such that each rod is approximately parallel to and spaced-apart from every other rod of the first plurality of rods (see figure 5, element 1 holds element 5 parallel and spaced apart).

Regarding claim 8, Stiehl discloses that the second formed-electrode (Figure 5b) comprises a second electrode assembly (element 6) including a second plurality of rods (element 6) and a second support (supported by electrodes 5), a first end of each rod of the second plurality of rods being mounted to the second support such that each rod is approximately parallel to and spaced-apart from every other rod of the second plurality of rods, the second electrode assembly being mounted relative to the first electrode assembly such that an approximately same spacing is maintained between each rod of the first plurality of rods and an adjacent rod of the second plurality of rods (see figure 5a, all element 6 are parallel and evenly spaced apart with respect to each other as well as the first set of electrodes).

Regarding claim 9, Stiehl disclose that each first electrode portion is approximately circular in a cross-section taken through a plane that is normal to the length of the first electrode portion and wherein each second electrode portion is approximately circular in a cross-section taken through a plane that is normal to the length of the second electrode portion (See claim 4).

Regarding claim 10, Stiel discloses that each first and second electrode portions are circular in a cross-section taken through a plane that is normal. Circles are within the subset of ellipses, where the major diameter = the minor diameter.

Regarding claims 11-12, Stiehl discloses apparatus for separating ions comprising:

a housing (figure 3, element 21) including a first surface and a second surface spaced-apart from the first surface and facing the first surface, an inlet aperture defined within the first surface and an outlet aperture defined within the second surface (see column 7, line 58-column 8, line 26);

a plurality of rod-shaped electrodes (element 5) disposed between the first surface and the second surface such that each rod-shaped electrode of the plurality of rod-shaped electrodes is approximately parallel to both the first surface and the second surface (see figure 5), each rod-shaped electrode of the plurality of rod-shaped electrodes having a length and being spaced-apart from an adjacent rod-shaped electrode, so as to define an analytical gap extending between the inlet aperture and the outlet aperture for allowing ions to propagate therebetween along a direction of travel that is transverse to the length (see figure 5, element 5 electrodes are spaced apart parallel to each other and the ions pass between the electrodes);

and, at least an electrical controller (figure 4, element 31) for electrically coupling to at least some rod-shaped electrodes of the plurality of rod-shaped electrodes (element 32).

Stiehl does not disclose that the voltage applied to the two types of electrodes are an asymmetric waveform voltage for applying a direct current voltage between the plurality of first electrode portions and the plurality of second electrode portions. However, Carnahan discloses a ion mobility spectrometer that uses various electrodes and applies an asymmetric voltage across the electrodes (see claim 1). At the time the invention was made, one of ordinary skill in the art would be motivated to apply the asymmetrical type voltage across the first and second electrodes in order to increase ion separation, as such types of voltages produce a field with a gradient, thus increasing the separability of ions.

Regarding claims 13-14, Stiehl discloses that the inlet aperture is adapted for providing a flow of a gas into the housing, through the analytical gap and out of the outlet aperture, the flow of gas for transporting ions along the direction of travel that is transverse to the length (see column 7, line 58- column 8, line 26, gas traverses the electrodes via an inlet/outlet flow).

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-5 and 7-9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 5, 1, 1, 7, 7 and 5, respectively of copending Application No. 10/529306. Although the conflicting claims are not identical, they are not patentably distinct from each other because the conflicting application claims subject matter that is claimed in the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.



***Response to Arguments***

6. Applicant's arguments, filed 1/5/07, with respect to the rejection(s) of claim(s) 1-14 under Osborne have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Stiehl in view of Carnahan.

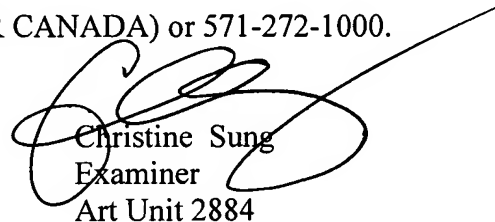
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Sung whose telephone number is 571-272-2448. The examiner can normally be reached on Monday- Friday 9-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christine Sung  
Examiner  
Art Unit 2884

CS